

REMARKS

Claims 1-23 are pending in the present application. Claims 3, 5-10, 13-17, 19 and 21 have been amended for clarification purposes and Claims 22 and 23 have been added. No new matter has been added. Accordingly, entry of the present Amendment is requested.

Claims 1-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,633,413 to Caveney *et al.*

Caveney is relied upon to assertively teach a pipetter/diluter method in which the system is first primed by drawing reagent, diluent or buffer into the system and flushing it out through the hand probe. Column 5 of Caveney, line 5, is referred to in support of this assertion. The hand probe of Caveney is equated with the instantly claimed pipette tip. Caveney is further relying upon to teach aspirating and dispensing the sample and/or reagent followed by flushing the system with reagent, diluent or buffer. Column 10 of Caveney, lines 44-65, is referred to in support of this assertion. Finally, it is asserted that Caveney teaches the use of multiple reagents at column 12, line 67, and that a “complicated [sequence] of aspirating, dispensing and washing may be performed.”

It is acknowledged that Caveney “fails to explicitly teach dispensing into a mixing cell.”

However, it is asserted on page 3 of the Office Action that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a mixing cell, such as a test tube to receive the products dispensed as taught by Caveney [at column 12, lines 36-37].” The Examiner then comments on certain dependent claims (Claims 8, 18 and 20) and with respect to the presently claimed aspiration, dispensing and washing steps, asserts that “it

would have been obvious to combine the steps taught by Caveney into complex sequences for use in analysis as taught by Caveney.”

Applicants respectfully traverse this rejection for the following reasons.

The present claimed invention is directed to a method of assaying a specimen including the step of preparing a specimen, a liquid cell in which a liquid used for assaying a component in the specimen is to be contained, and a mixing cell wherein the specimen and the liquid are mixed. A liquid reagent is supplied into the liquid cell in an amount exceeding the amount required in the assay, and a portion of the specimen and a portion of the liquid is pipetted into the mixing cell using a pipetting tip. The pipetting tip is then washed with the liquid remaining in the liquid cell.

Referring to the paragraph bridging pages 3 and 4 of the present application, the present claimed invention avoids significant problems in the prior art. Namely, the use of a new pipetting tip immediately after the initiation of the assay. This is because when a highly viscous liquid (such as whole blood) is sucked, the volume of the sucked specimen varies even though the interior of the pipetting tip has been treated with silicone. As a result, there arises errors in the assay data apparently because whole blood has both hydrophilic and hydrophobic characteristics but the pipetting tip exhibits a highly hydrophobic nature that brings about strong resistance in the course of sucking. It is additionally believed that the viscosity might also effect this phenomenon.

In order to avoid these problems, the present invention provides an assaying method whereby a tip can be washed without providing any cell exclusively for washing. In this regard,

the pipetting tip is washed with the liquid remaining in the liquid cell, as recited in Claim 1 and the other independent claims.

As noted by the Examiner, at column 10 of Caveney, lines 44-65, the reference teaches a priming sequence during which reagent is drawn into the system and flushed out through the hand probe. However, Caveney does not teach the presently claimed step of washing the pipetting tip with the liquid remaining in the liquid cell.

In sum, according to Caveney, the liquids are sucked from the reagent syringe and the sample syringe and discharged from the hand probe via the dispense/sample tube (*see* Figs. 1 and 10 of Caveney). Therefore, the sucking opening and the discharging opening are different. In contrast, in the present invention, pipetting, *i.e.*, sucking and discharging, can be carried out by using the same pipetting tip, and therefore, sucking and discharging are carried out at the same opening. Furthermore, the same pipetting tip can be used for the specimen and the liquid reagent (and the liquid diluent), which is different from Caveney. In order to avoid inconvenience when the same pipetting tip is used for the specimen and the liquid reagent, the present invention is characterized in that the pipetting tip is washed with the liquid remaining in the liquid cell. As a result, an assay method wherein a tip can be washed without providing any cell exclusively for washing is provided, and an assay method wherein a liquid can be accurately collected in a definite amount by using a pipetting tip is also provided. These effects cannot be expected by one of ordinary skill in the art from Caveney which has a structure different from the present invention.


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/848,330

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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